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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/787,303

02/27/2004

Takashi Tomiyama

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EXAMINER

BUTLER, PATRICK

ART UNIT

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1732

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/787,303

Applicant(s)

TOMIYAMA ET AL.

Examiner

Patrick Butler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki et al (U.S. Patent 4,825,249), and further in view of Cahill et al (U.S. Patent 3,387,071).

Oki et al, hereafter "Oki", discloses a process for producing a cleaning blade reading on claim 1. Oki teaches providing a urethane cleaning blade for use with a photoelectronic copying machine and coating it with a mixture that includes an isocyanate compound to deliver wear resistance and lubricating properties. See lines 60-68 in column 1 and 58-63 in column 3. Oki further teaches that the isocyanate compound is caused to react (cure) on the surface of the urethane substrate with unreacted elements thereon. See lines 31-46 in column 2.

Oki teaches that the coating is applied by dipping (impregnating, immersing), as required by claims 1 and 3. See lines 38-43 in column 3.

The process limitations in claim 1 are noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. In re Brown, 173 USPQ 685 and In re Fessmann, 180 USPQ 324. With respect to this in Claim 1, the Examiner considers the

limitation "blade formed of a urethane resin, the urethane resin having a water content of 1% by weight or less" to only be the urethane's formation properties rather than including the steps of making the blade and rather than claiming the blade's water content. The process of using the apparatus is therefore considered to be a process of using a product-by-process. Thus, any blade having the same features as the blade made from urethane having a water content of 1% by weight or less meets Claim 1's "formed" limitation. Moreover, Oki does not use water. Thus, even if considering the claim to require the water content as being a property of the formed blade or even if considering the claim to require the water content as being a step in the process, having no water content would read on the Claimed limitation of "1% by weight or less."

Oki does not teach removing excess compound with warm or hot air having a temperature sufficient to render the compound flowable, as required by claim 1. Sasame further does not teach removing excess isocyanate compound with a solvent, as required by claim 2.

Cahill et al, hereafter "Cahill", teaches forming a urethane object, in this case a fiber, by using an excess of an isocyanate compound and removing this excess with hot air in reference claims 4 and 5. Herein Cahill refers to excess extender, making reference to the reaction functionality of the isocyanate. Using a temperature above the melting point of the isocyanate compound, thereby maintaining flowability for the purpose of sheeting the fluid, would have been obvious as a matter of choice to one skilled in the art. Also, it would have been obvious as a matter of choice for one skilled

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in the art to follow up the hot air doctoring with a solvent to insure the complete removal of isocyanate from the surface.

Oki and Cahill are combinable because they are concerned with a similar technical field, namely, urethane compositions. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Oki the isocyanate removal process, as taught by Cahill. The motivation to do so would have been to prevent deterioration of lubricating properties by any unreacted end reactive groups remaining. See lines 53-55 in column 3 of Oki.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki in view of Cahill, as applied to claims 1 above, and further in view of Limerkens et al (U.S. Patent 5,840,782).

Oki/Cahill teach the method of claims 1-3, as discussed above.

Oki/Cahill do not teach urethane having some water but at an amount 1% by weight or less.

Limerkens et al, hereafter "Limerkens", teaches water content of a polyisocyanate/polyol system (urethane) at 0.3-1.2% by weight in reference claim 14 and at lines 57-67 in column 2.

Oki/Cahill and Limerkens are combinable because they are concerned with a similar technical field, namely, urethane compositions. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Oki/Cahill the water content of Limerkens, and would have been motivated to do so to slow or stop additional reaction.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki in view of Cahill, as applied to claims 1-3 above, and further in view of Suzuki et al (U.S. Patent 4,980,108).

Oki/Cahill teach the method of claims 1-3, as discussed above.

Oki/ Cahill do not teach deactivating excess unreacted isocyanate with an active hydrogen compound which does not cause further cross-linking, as required by claim 5.

Suzuki et al, hereafter "Suzuki", neutralizes a urethane containing unreacted isocyanate with aqueous ammonia at lines 50-65 in column 6.

Oki/Cahill and Suzuki are combinable because they are concerned with a similar technical field, namely, urethane compositions. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Oki/Cahill the neutralization of excess isocyanate, as taught by Suzuki, and would have been motivated to do so to prevent deterioration of lubricating properties. See lines 53-55 in column 3 of Oki.

Response to Arguments

Applicant's arguments filed 09 February 2007 have been fully considered but they are not persuasive.

Applicant argues with respect to the 35 USC §103(a) rejections. Applicant's arguments appear to be on the grounds that:

1) Applying a coating by dipping is not equivalent to impregnating since Comparative Example 1 (see Specification, page 34) and Table 1 (see Specification,

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page 34) clearly demonstrate that coating by dipping is substantially different from the presently claimed impregnation.

2) Cahill does not teach steps (1) and (2)

3) Since Cahill is directed solely to fibers, it does not disclose the step (1) related to the impregnation of the blade.

4) Limerkens does not disclose the features missed by Oki and Cahill.

5) Limerkens does not teach water content in the resin. Instead, Limerkens teaches water content in the entire reaction system.

6) Limerkens's use of water is contrary to the present invention, which minimizes water to avoid foaming (see Specification, page 21, line 24 through page 22, line 7).

7) Suzuki cannot supplement the missing elements to suggest impregnation of urethane with an isocyanate to form a cleaning blade.

The Applicant's arguments are addressed as follows:

1) Since the references are combined to include not just dipping but also blowing hot air, then the coating is applied by more than just dipping.

Moreover, it is not clear from the comparative example that dipping was the sole element that led to a lack of impregnation.

Moreover, as claimed in Claim 3, immersing, or dipping, suffices to impregnate.

2 and 3) Oki is relied upon for teaching step (1). For step (2), Cahill teaches blowing air since the speed of the air relative to the fiber is 200 feet per minute (see col. 4, lines 60-62).

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3) Since Cahill broadly teaches urethane polymer treatment, Cahill may be used for all the benefits taught.

4) Oki and Cahill teach the features as relied upon as previously described.

5) Regardless of whether Limerkens teaches the water content of the resin, Oki and Cahill meet the claimed limitation as incorporated into Claim 1 as described above:

The process limitations in claim 1 are noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. In re Brown, 173 USPQ 685 and In re Fessmann, 180 USPQ 324. With respect to this in Claim 1, the Examiner considers the limitation "blade formed of a urethane resin, the urethane resin having a water content of 1% by weight or less" to only be the urethane's formation properties rather than including the steps of making the blade and rather than claiming the blade's water content. The process of using the apparatus is therefore considered to be a process of using a product-by-process. Thus, any blade having the same features as the blade made from urethane having a water content of 1% by weight or less meets Claim 1's "formed" limitation. Moreover, Oki does not use water. Thus, even if considering the claim to require the water content as being a property of the formed blade or even if considering the claim to require the water content as being a step in the process, having no water content would read on the Claimed limitation of "1% by weight or less."

5) Since the water is in the system of making the urethane product, the amount of water in the product would meet the limitation of the claim either in the amount taught to be used falling within the claimed range or escape of the water from the urethane product, which would also fall within the claimed range that lacks a minimum.

6) In response to applicant's argument that a small amount of water produces minimum porosity, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

7) Suzuki is not relied upon for teaching other limitations as the other references meet the other limitations as previously described. Suzuki is only relied on for the teaching of deactivating excess unreacted isocyanate.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.—Thu. 7:30 a.m.—5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Patrick Butler
Assistant Examiner
Art Unit 1732



CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER

4/30/07